

The Perfect Picture

The Pollution Prevention Program
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Guidelines for Darkroom Hobbyists

Darkroom Wastes & the City of Albuquerque

The City of Albuquerque owns and operates the Southside Water Reclamation Plant (SWRP). The SWRP is a **domestic** wastewater treatment facility. SWRP's primary function is to remove domestic pollutants, clean, and disinfect the water before discharging it to the Rio Grande. SWRP has to meet strict discharge requirements developed by the federal Environmental Protection Agency (EPA). SWRP needs **your** help to keep running efficiently and to

meet EPA regulations. Photographic wastes contain several pollutants that may harm the treatment plant, or could cause a violation of SWRP's EPA wastewater discharge permit.

Spent Photo Fixer

The SWRP is concerned with spent photographic fixer because it contains high concentrations of dissolved silver. On June 1, 1994, the City's plant received an EPA Permit which considerably lowered the discharge of silver to the Rio Grande.

The **5 Parts Per Million Silver Program (5 PPM)** was developed to reduce total silver discharges to the sanitary sewer system to below **5 parts per million (milligrams per liter)** by encouraging voluntary compliance. The 5 PPM Program is geared to help small businesses, but is also set up for public information. This newsletter is for the individual that has a darkroom at home. The City of Albuquerque has a program to manage hazardous waste from

homes and the hobbyist. The **Household Hazardous Waste Collection Center** is available to Albuquerque/Bernalillo County residents. Call the Household Hazardous Waste Information line at 345-1650 for information about:

- ! Days and Hours of Operation.
- ! Location of Collection Center.

Some individuals that have a darkroom at home take their used fixers to larger labs so that the silver may be reclaimed.

Hobbyists should make sure that:

- ! Spent photo fixer is not dumped down the drain.
- ! No other chemical is mixed with the spent photographic fixer.
- ! Developer & fixers should never be mixed. Mixtures form ammonia which can be harmful if concentrated.
- ! Bleach-fix and regular fix should never be mixed either, mixing different photographic chemicals

CONTENTS

| | |
|---|---|
| Darkroom Wastes & the City of Albuquerque | 1 |
| Spent Photo Fixer | 1 |
| Water Conservation | 2 |
| Materials | 2 |
| Image Production | 2 |

creates problems during the silver recovery process.

! Before transporting make sure spent photo fixer is properly packaged, and labeled. The label on the bottled should read

“Spent Photo Fixer.”

Following are some tips taken from **Photography & the**

Environment: Terragreen

Neutralization; pH measures the strength of both acid and base solutions. Acids run from 0 (very strong) to 7 (neutral) and bases run from 7 to 14 (very strong).

Solutions close to neutral are best for waste handling. A **good range**

for disposal or reclamation

runs from 5.5 to 8.0. You may

adjust pH with common products like vinegar or baking soda. The

pH can be monitored using litmus papers. pH papers can be purchased from any lab supplier.

For the ambitious home darkroom operator, who wants to reclaim the silver from their spent

photographic fixer, **✚ Eastman**

Kodak Company sells a silver recovery cartridge

for the low volume user, the *Junior 1-P* 3.5 gallon size,

catalog no. 139-8205 List Price

\$45. 90. The Junior 1-P will treat

about 75 to 100 gallons of fixer or

bleach fix. For best results, this

volume of solution should be

treated within *six months after the*



recovery cartridge is first put into service. Other manufacturers may sell similar cartridges; however we were unable to locate any other manufacturers that make small cartridges, check with your



photo chemical suppliers about a silver recovery cartridge for your

darkroom at home.

Water Conservation

When washing fiber-based prints you can save the relatively clean water from final washes and reuse it for preliminary washing of later print batches. This step always matches the cleanest print with the cleanest water and can reduce your wash water by **40%.**

Materials

Use chemicals until they are exhausted. It's easy when stop bath and fixer remover have indicators. Test strips will tell you the silver content in the fixer. A lot of silver is discharged in the forms of scraps from roll film and outdated film.

Between **5 and 10% of all 35mm film** is cut away before processing! Collect the scraps and fix them before throwing the film away. The silver can be recovered from the fixer. The p2 Program is aware of one small shop that saves their film scrap, puts it in the plastic mesh bags that fruit is sold in, and soaks it in

the fixer to recover the silver. This process can be a bit messy, and if left in the fixer too long may be attacked by bacteria and go sour. Anyone planning to do this should monitor this process carefully. You can check the silver content with test strips.

Accurately adding and monitoring chemical replenishment of the process baths will cut down chemical waste. Fixer & developers degrade at different speeds. Just because fixer is spent does not mean the developer is also spent. Process baths may be protected from oxidation by reducing exposure to air. Store chemicals in closed plastic containers. Glass marbles may be added to bring the liquid level to the brim each time liquid is used. This limits air in the container, thereby extending the chemical's useful life. Many developer cleaners contain chromium. Chromium can be toxic, and harms the treatment plant, if you use any type of developer cleaner, check the label to ensure that it doesn't contain chromium. Proper storage conditions are necessary to maximize the life of paper for color prints. One writer recommends storing paper in a refrigerator, if it will not be used for a few days, and in a freezer for longer storage periods. He states that he has used the same box of paper for years by freezing

it (Sribnick 1987). Cassettes, cartridges or canisters are all recyclable, check with your supplier, or a large photo processing lab about recycling the containers in which film is shipped.

Image Production

If you shoot a lot of film and make a lot of prints to get a few good images, evolve a personal method for reviewing what works visually while you shoot. This will sharpen your style, reduce your use of materials and save a lot of extra work in the long run!

✚ *The City of Albuquerque does not recommend, or endorse any particular company or product. The p2 Program merely furnishes information about products available.*

Sources

EPA Guides to Pollution Prevention; The Photoprocessing Industry EPA/625/7-91/012
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Photography & the Environment Volume 1:
Photochemistry and Ecological Well Being
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